



Carriage Road Explorers Post-Visit Activity

Bridge Building

Objective:

By the end of this activity students should:

- Have a better understanding of the key parts of a bridge
- Know what the job of an engineer is
- Should also begin to understand how to design a bridge

Maine Learning Results:

Science and Technology.

C. Scientific and Technological Enterprise

C2. Understanding About Science and Technology

Materials:

- Copy paper or construction paper (8.5" x11")
- Paper clips
- Tape
- Weighing objects (e.g., quarters, marbles, pebbles, other coins)
- Writing utensil

Summary of Activity:

Students will build their own bridge in groups and then test to see how much their bridge can hold.

Lesson:

Begin this lesson by reminding students about the bridge they saw on their carriage road field trip. Engage the students by asking questions to the whole group in order to refresh their memory.

- What is the job of an engineer? *To design things*
- Do you remember the different parts of the bridges we learned about on our field trip?
Keystone, buttresses, weeps holes, arches
- Any other questions you feel are relevant.

Write the answers on the chalk/white board or overhead projector so students can have a visual of the answers as well as verbal.

Bridge-Building Competition

Divide the students into groups of 2–4. Make sure that each group has ample work space. Explain to the students that Mr. Rockefeller has commissioned them to build a bridge, but it must be strong enough to support the weight of the horses and carriages that travel the carriage roads each day. Explain to the students that each group will only get a limited number of supplies.

Each group will be given the following:

8 pieces of 8.5 x 11 copy or construction paper
12'' of tape
7 paper clips

Explain to the students to be creative and try folding the paper in a variety of ways. Since each group only gets a limited number of supplies it might be a good idea for the students to draw a picture of their bridge before they start building.

Testing the Bridges: Once all the bridges are completed, begin the testing process. Gather all the students around one group's bridge and have the builders of that group begin one at a time placing weighing objects on their bridge. Each group should keep placing weight on its bridge until it collapses. Once it collapses, the class should record how much weight (e.g., how many quarters) it held. Continue this process with each bridge. Once all the bridges have been tested, discuss with the class which bridge held the most and the least, and why they think that is.

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